Multisectoral Malaria Project; Malaria and Rice Agriculture, Karonga, Malawi

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LUANAR
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Accelerating the end of Malaria across sectors
Presentation Outline

- Background/Overview
- Objectives
- Methodology
- Results
- Conclusion/Next steps

Accelerating the end of Malaria across sectors
Background/overview of the project

• Malaria is a major public health problem in Malawi, accounts for 36% of all OPD visits and 1.1% of all global malaria deaths.

• Location of vector breeding, relative to human populations, is one of the factors that affect malaria parasite transmission.

• Irrigation agriculture can create favorable breeding habitats for mosquitoes at the same time promotes economic growth, enhance food security and alleviate poverty.

• Studies in sub-Saharan Africa including Malawi have shown increase in malaria risk and malaria vectors abundance associated with rice irrigation.

• This justifies need to design and implement interventions that promote growing rice while mitigating the associated malaria risk.
Objectives

To determine malaria risks attributed to agricultural rice production within households:

- To evaluate the effect of proximity of human dwellings (households) to rice irrigation on prevalence of malaria infection among household members in rice irrigation schemes in Karonga district;
- To assess the effect of proximity of human dwellings (households) to rice irrigation on indoor densities of Anopheles mosquitoes in rice irrigation schemes in Karonga district.
Methodology

• Cross-sectional
• Two schemes, two surveys: rainy and dry season
• Data collection:
  • Individual
    • mRDT and Malaria treatment
    • Malaria Disease: Passive case detection
    • Participant LLIN usage
    • Human biting rates
  • Household
    • Household LLIN coverage
    • Net assessment: LLIN physical integrity
    • Socioeconomic and KAP on malaria
    • mean number of *Anopheles* captured per house
Results

Prevalence of Malaria

Proportion of individuals sleeping under bed nets

<table>
<thead>
<tr>
<th></th>
<th>WOVWE</th>
<th>MPHINGA</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO.</td>
<td>727</td>
<td>755</td>
</tr>
<tr>
<td>%</td>
<td>96.3%</td>
<td>92.5%</td>
</tr>
<tr>
<td>No.</td>
<td>28</td>
<td>93</td>
</tr>
<tr>
<td>Positive</td>
<td>93</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>821</td>
<td>914</td>
</tr>
<tr>
<td>Negative</td>
<td>59</td>
<td>89.8%</td>
</tr>
<tr>
<td>Positive</td>
<td>68.3%</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>755</td>
<td>914</td>
</tr>
</tbody>
</table>

Prevalence of Malaria

- Negative
- Positive
- Total

Proportion of individuals sleeping under bed nets

- No
- Yes
- Total
Results contd…

Seasons malaria prevalence

<table>
<thead>
<tr>
<th>Location</th>
<th>Season</th>
<th>NO.</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>WOVWE</td>
<td>Rainy season</td>
<td>172</td>
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</tr>
<tr>
<td></td>
<td>Dry season</td>
<td>69</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Winter/cold season</td>
<td>22</td>
<td>172</td>
</tr>
<tr>
<td>MPHINGA</td>
<td>Rainy season</td>
<td>172</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dry season</td>
<td>81</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Winter/cold season</td>
<td>47</td>
<td>172</td>
</tr>
</tbody>
</table>

Results contd…
Results

Malaria prevention methods

- Sleep under a mosquito net
- Use mosquito repellent
- Spray house with insecticide
- Use mosquito coil
- Put doors/windows screens
- Traditional insecticides use
- Cut grass around the house
- Drain fill in puddles of stagnant water
- Avoid mosquito bites
- Avoid drinking dirty water
- Avoid eating bad food
- Other (specify)

Legend:
- Wovwe No.
- Wovwe %
- Mphinga No.
- Mphinga %
Conclusion/Next steps

• Malaria cases (3.7%) though deemed low during the time of data collection, are still higher than the national statistic of 1.8%
• Data analysis for the first round is continuing
• Second round of data collection in March/April (rainy season).
• Improve linkages between MOH and MOA to increase awareness on the rice irrigation agriculture impact on malaria
• Plans to deploy relevant potentially impactful Malaria interventions in rice schemes using results.
Questions

Thank You